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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,912	03/23/2007	Graham Eastham	31229-226445	1376
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VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER WITHERSPOON, SIKARL A	
			ART UNIT 1621	PAPER NUMBER
			MAIL DATE 01/14/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,912	<b>Applicant(s)</b> EASTHAM ET AL.	
	<b>Examiner</b> Sikar A. Witherspoon	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 and 51-62 is/are rejected.
- 7) ☒ Claim(s) 48-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/21/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 52, 54, 56, and 60-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 52, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 54 recites the limitation "wherein Ar is a cyclopentadienyl group" in line 2. There is insufficient antecedent basis for this limitation in the claim, since claim 11, from which claim 54 depends, defines Ar as an optionally substituted *aryl* moiety.

Claim 56 is indefinite for failing to specifically recite process steps and/or limitations in the claim. A claim should be complete in and of itself and should not refer to the specification for clarity.

Claim 60 recites the limitation "wherein said solvent is as defined in claim 1" in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim since claim 1 does not recite a solvent being present.

Claims 61 and 62 provide for the use of a catalyst system as defined in claim 1, but, since the claim does not set forth any steps involved in the method/process, it is

unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 61 and 62 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 57-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al (J. Org. Chem, 1994).

The palladium complex disclosed by the reference anticipates the instant claims (see formula 1 and formula 2, p 5359).

Claims 57-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Richmond et al (J. Am. Chem. Soc, 2001).

The palladium complexes disclosed by the reference anticipates the instant claims (p 10523).

Claims 57-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Iverson et al (Organometallics, 2001).

The rhodium complex disclosed by the reference anticipates the instant claims (p 5746).

Claims 57-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoffmann et al (J. Organometallic Chem, 1995).

The rhodium complex disclosed anticipates the instant claims (p 53 compds 10 and 11; fig. 1).

Claim 60 is rejected under 35 U.S.C. 102(b) as being anticipated by Fox et al (US 4,504,684).

Example 4 (col. 5, line 64 to col. 6, line 8) anticipates the instant claim, said claim being drawn to a hydroformylation reaction medium.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-47, and 51-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox et al (US 4,504,684) in view of Wang et al (US 6,348,621).

The claims are drawn to a process for hydroformylation of an olefin in the presence of a catalyst system comprising a Group VIII metal compound, a bidentate phosphine, and wherein a chlorine moiety is present in said Group VIII metal compound.

Fox et al teach such a hydroformylation, in the presence of a rhodium complex containing a chlorine moiety, the reaction being conducted at 200°C and a pressure of 1100 psi [about 76 bar] (example 4, col. 5, line 64 to col. 6, line 8).

The difference between Fox et al and the instant claims is that the complex catalyst employed by Fox et al is a polymeric complex, while the instant claims do not expressly recite a polymeric complex. However, Wang et al teach a catalyst complex similar to that of Fox et al, i.e., comprising a Group VIII metal and a bidentate phosphine, said complex being substantially similar to the complex employed in the present invention, and shown to be useful in carbonylation reactions (hydroformylation is a type of carbonylation).

It would have been obvious to a person having ordinary skill in the art that the ligands taught by Wang et al may have been employed in and substituted for the ligands taught by Fox et al, with the reasonable expectation of proving additional bidentate ligands useable with the chlorine-containing Group VIII metal employed as catalytically active material in the hydroformylation process taught by Fox et al.

Claims 48-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Objections***

Claims 57, 58, and 60 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to another claim in the alternative only, and should not refer to another multiple dependent claim. See MPEP § 608.01(n).

Claim 42 , line 3, should read "...group consisting of" to conform to proper Markush language.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikarl A. Witherspoon whose telephone number is 571-272-0649. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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PRIMARY EXAMINER